



NSF-LED NATIONAL AI RESEARCH INSTITUTES

The U.S. National Science Foundation (NSF) announced a **\$220** million investment in eleven new Artificial Intelligence (AI) Research Institutes, building on the first round of seven AI Institutes totaling **\$140** million funded last year.

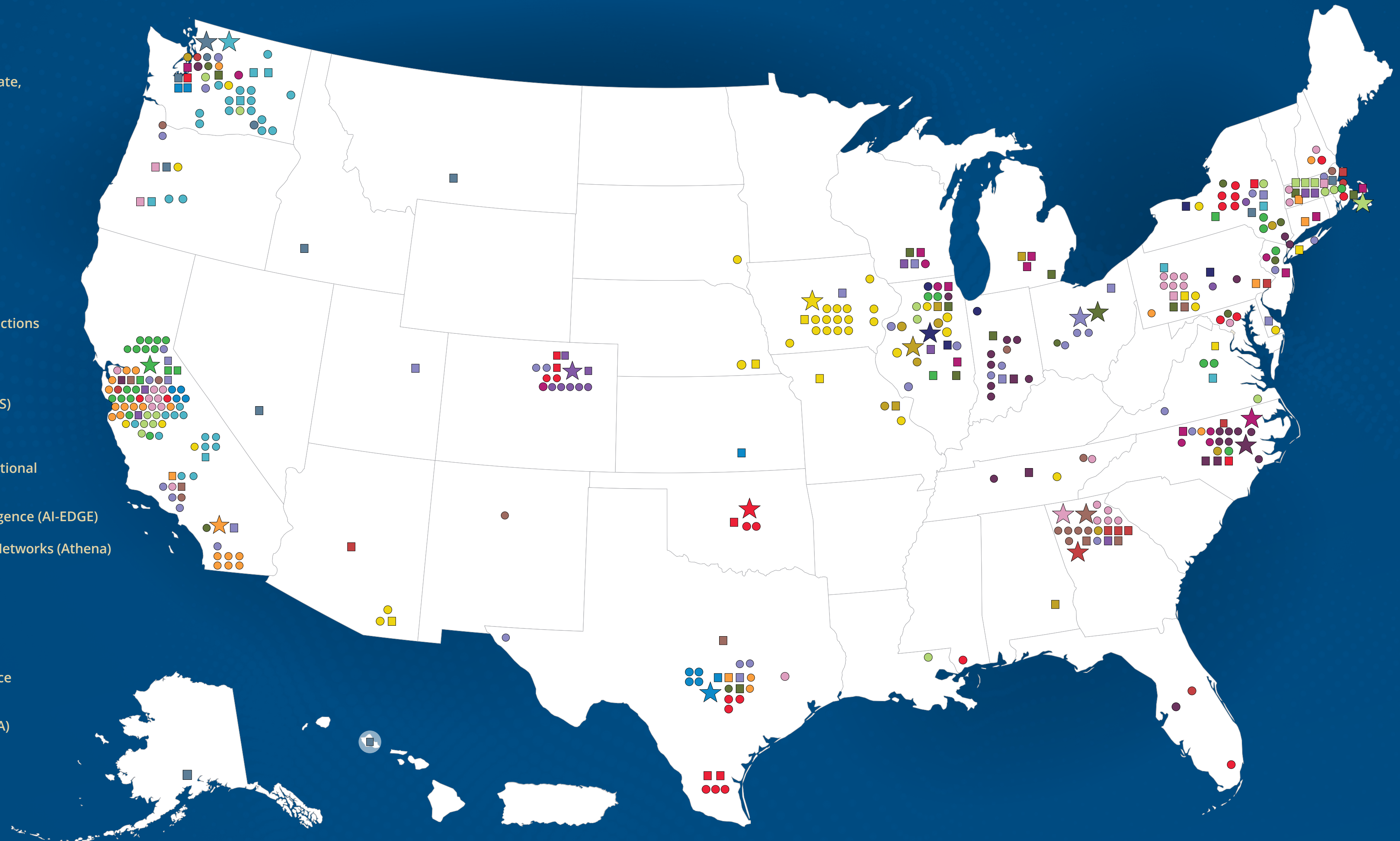
2020 and 2021 Awards

★ LEAD ORGANIZATION

■ PRINCIPAL ORGANIZATIONS

● PARTNERS/COLLABORATORS

- NSF AI Institute for Research on Trustworthy AI in Weather, Climate, and Coastal Oceanography
- NSF AI Institute for Foundations of Machine Learning
- USDA-NIFA AI Institute for Next Generation Food Systems
- USDA-NIFA AI Institute for Future Agricultural Resilience, Management, and Sustainability (AIFARMS)
- NSF AI Institute for Student-AI Teaming
- Molecule Maker Lab Institute (MMLI): NSF AI Institute for Molecular Discovery, Synthetic, and Manufacturing
- NSF AI Institute for Artificial Intelligence and Fundamental Interactions
- NSF AI Institute for Collaborative Assistance and Responsive Interaction for Networked Groups (AI-CARING)
- NSF AI Institute for Learning-enabled Optimization at Scale (TILOS)
- NSF AI Institute for Optimization
- NSF AI Institute for Intelligent Cyberinfrastructure with Computational Learning in the Environment (ICICLE)
- NSF AI Institute for Future Edge Networks and Distributed Intelligence (AI-EDGE)
- NSF AI Institute for Edge Computing Leveraging Next-generation Networks (Athena)
- NSF AI Institute for Dynamic Systems
- NSF AI Institute for Engaged Learning
- NSF AI Institute for Adult Learning and Online Education (ALOE)
- USDA-NIFA AI Institute: Agricultural AI for Transforming Workforce and Decision Support (AgAID)
- USDA-NIFA AI Institute: AI Institute for Resilient Agriculture (AIIRA)



NSF AI Institute for Research on Trustworthy AI in Weather, Climate, and Coastal Oceanography

LEAD:
University of Oklahoma - Norman Campus

- PRINCIPAL ORGANIZATIONS:
- University of Oklahoma – OK
 - Colorado State University – CO
 - North Carolina State University – NC
 - University at Albany – NY
 - Texas A&M University – TX
 - University of Washington – WA
 - Del Mar College – TX
 - National Center for Atmospheric Research/University Corporation for Atmospheric Research – CO

- PARTNERS/COLLABORATORS:
- Google – CA
 - IBM (The Weather Company) – MA
 - Nvidia – CA
 - Disaster Technologies Incorporated – DC
 - NOAA, National Severe Storms Laboratory, Storm Prediction Center – OK
 - National Hurricane Center – FL
 - Joint Typhoon Warning Center – MS
 - NOAA's Earth System Research Laboratories, Global Systems Laboratory – CO
 - NOAA's National Geodetic Survey – MD
 - NOAA's Operational Oceanographic Products and Services – MD
 - Cooperative Institute for Environmental Sciences (CIRES) NOAA Global Systems Laboratory – CO
 - Oklahoma Climate Survey – OK
 - Department of Homeland Security and Emergency Services
 - DOT, Department of Environmental Conservation – NY
 - NY Thruway – NY
 - NY Independent System Operator – NY
 - NY Power Authority – NY
 - Texas Coastal Offices of the NWS – TX
 - National Park Service – DC
 - Texas General Land Office – TX
 - Texas DOT – TX
 - Texas Commission on Environmental Quality – TX
 - Nueces County Coastal Parks – TX
 - City of Corpus Christi – TX

NSF AI Institute for Foundations of Machine Learning

LEAD:
University of Texas at Austin

- PRINCIPAL ORGANIZATIONS:
- University of Texas at Austin – TX
 - University of Washington – WA
 - Wichita State University – KS
 - Microsoft Research – WA

- PARTNERS/COLLABORATORS:
- City of Austin – TX
 - Texas Advanced Computing Center – TX
 - UT Dell Medical School – TX
 - YouTube – CA
 - Facebook – CA
 - Netflix – CA
 - Internet Archive – CA
 - Dell Technologies – TX

USDA-NIFA AI Institute for Next Generation Food Systems

LEAD:
University of California – Davis

- PRINCIPAL ORGANIZATIONS:
- University of California – CA
 - Cornell University – NY
 - University of California – CA
 - University of Illinois at Urbana-Champaign – IL
 - University of California Agriculture and Natural Resources – CA

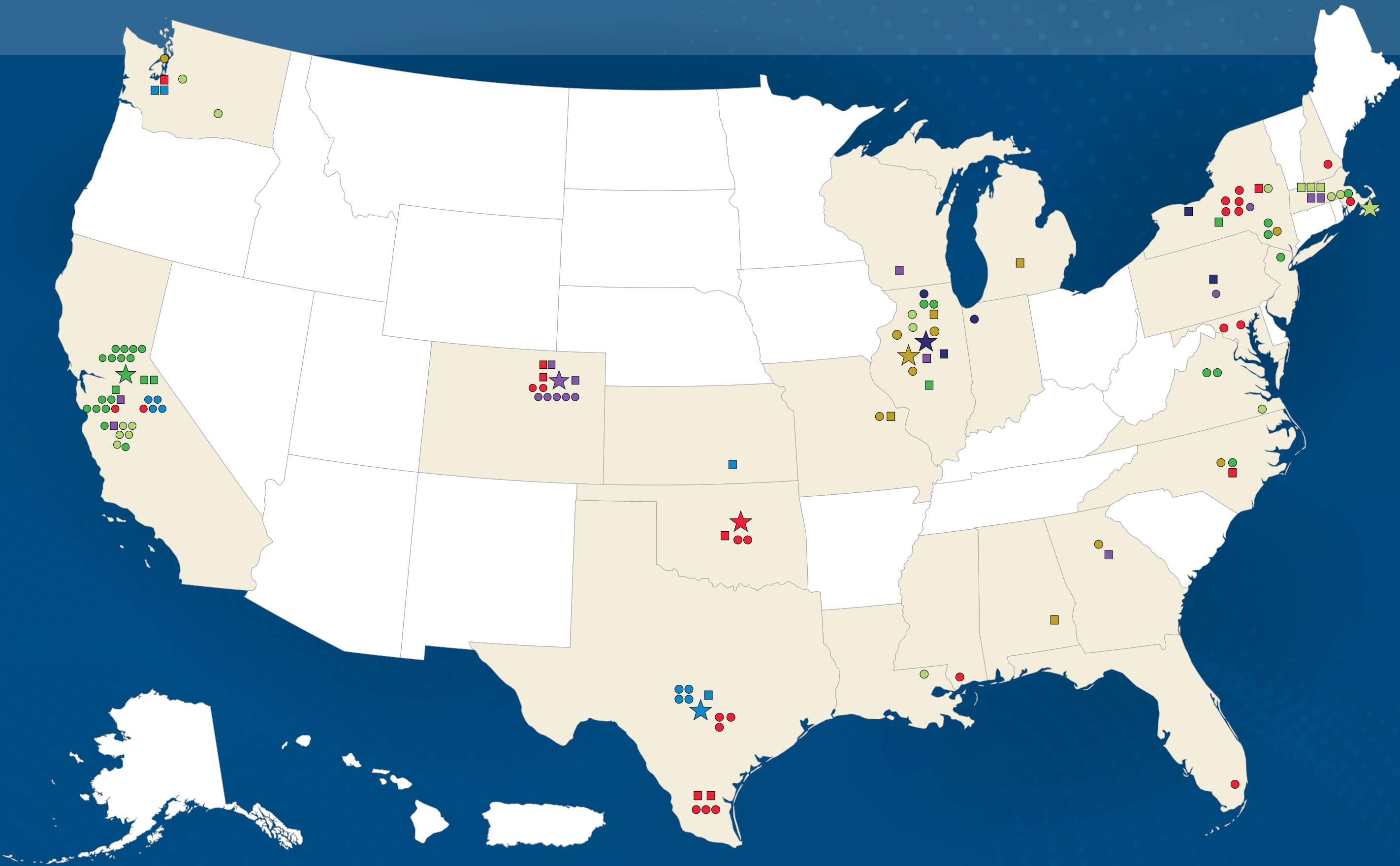
- PARTNERS/COLLABORATORS:
- Agricultural Research Service, USDA – Washington, DC
 - UCD Seed Biotechnology Center – CA
 - UCD Plant Breeding Center – CA
 - ADM - Global headquarters – IL
 - AGR Partners – CA
 - BASF – NJ
 - Better Food Ventures (VC firm) – CA
 - Better Ventures (VC) – CA
 - Bow Capital (VC) – CA
 - Digestiva – CA
 - The Culinary Institute of America at Copia – CA
 - Farm Foundation – IL
 - FoodShot Global – NY
 - FTW Ventures – CA
 - Thomas Jefferson Foundation – VA
 - Novozymes (North American headquarters) – NC
 - MISTA – CA
 - MARS, Incorporated – VA
 - Nuritas, Ltd. – Ireland
 - Process Integration and Predictive Analytics – CA
 - The Rockefeller Foundation (headquarters) – NY
 - The March Fund – CA
 - The Production Board – CA
 - ThermoFisher Scientific – MA
 - Sacramento City College – CA
 - West Hills College Coalinga – CA

USDA-NIFA AI Institute for Future Agricultural Resilience, Management, and Sustainability (AIFARMS)

LEAD:
University of Illinois at Urbana-Champaign

- PRINCIPAL ORGANIZATIONS:
- University of Chicago – IL
 - Michigan State University – MI
 - Tuskegee University – AL
 - Danforth Plant Science Center – MO

- PARTNERS/COLLABORATORS:
- IBM Research – NY
 - Microsoft – WA
 - EarthSense – IL
 - Agrela Ecosystems – MO
 - Syngenta Crop Protection – Washington, DC
 - Benson Hill – NC
 - Strawn Pork – IL
 - Agco – GA
 - John Deere – IL



NSF AI Institute for Student-AI Teaming

LEAD:
University of Colorado Boulder

- PRINCIPAL ORGANIZATIONS:
- Colorado State University – CO
 - University of California - Santa Cruz – CA
 - University of California – Berkeley – CA
 - Brandeis University – MA
 - Worcester Polytechnic Institute – MA
 - Georgia Tech – GA
 - University of Illinois at Urbana-Champaign – IL
 - University of Wisconsin-Madison – WI

- PARTNERS/COLLABORATORS:
- Denver Public Schools – CO
 - St.Vrain Valley Schools – CO
 - SparkFun – CO
 - Curve10 – CO
 - Project Voyce – CO
 - The Op Ed Project – NY

Molecule Maker Lab Institute (MMLI): NSF AI Institute for Molecular Discovery, Synthetic, and Manufacturing

LEAD:
University of Illinois at Urbana-Champaign

- PRINCIPAL ORGANIZATIONS:
- Pennsylvania State University – PA
 - Rochester Institute of Technology – NY

- PARTNERS/COLLABORATORS:
- Northwestern University – IL
 - Allchemy, Inc. – IN

NSF AI Institute for Artificial Intelligence and Fundamental Interactions

LEAD:
Massachusetts Institute of Technology

PRINCIPAL ORGANIZATIONS:

- Northeastern University – MA
- Harvard University – MA
- Tufts University – MA

PARTNERS/COLLABORATORS:

- MIT-Bates Computing Center – MA
- CERN – Switzerland
- Fermilab – IL
- Jefferson Lab – VA
- Argonne National Lab – IL
- LIGO Scientific Collaboration – LA and – WA
- Amazon – CA
- X, the moonshot factory – CA
- Xilinx – CA
- IBM – NY
- Nvidia – CA
- DeepMind - London, UK
- Microsoft Research – WA
- Yandex - Moscow, Russia
- MIT-IBM Watson AI Lab – MA
- Sony - Tokyo, Japan
- Salesforce – CA

NSF AI Institute for Collaborative Assistance and Responsive Interaction for Networked Groups (AI-CARING)

LEAD:
Georgia Tech

PRINCIPAL ORGANIZATIONS:

- Carnegie Mellon University – PA
- Oregon State University – OR
- University of Mass Lowell – MA
- Oregon Health & Science University – OR

PARTNERS/COLLABORATORS:

- National Center for Women & Information Technology – DC
- Achieva – PA
- American Association of Retired Persons (AARP) – DC
- Apple – CA
- Briarcliff Oaks – GA
- Cathedral Towers, Inc. – GA
- Chatham University – PA
- Emory University – GA
- Facebook – CA
- Hello Robot – CA
- Jet Propulsion Laboratory – CA
- Jewish Healthcare Foundation – PA
- Morehouse School of Medicine – GA
- National Aeronautics and Space Administration – TX
- National Church Residences, Trinity Towers – MA
- Northern Essex Community College – MA
- NVIDIA – CA
- Oak Ridge National Laboratory – TN
- People Power – CA
- Saint Anne’s Terrace, Inc. – GA
- Sandia National Laboratories – CA
- Stanley Healthcare – NH
- Toyota Research Institute – CA
- US Dept of Commerce, National Institute of Standards and Technology – MD
- US Dept of Veterans Affairs – VA and – DC
- Pittsburgh Healthcare System – PA
- University of Pittsburgh – PA
- UPMC Enterprises – PA

- Cadence Design Systems – CA
- Arm, Ltd. – CA
- Xilinx, Inc. – CA
- Synopsys, Inc. – NC
- Mentor Graphics (Siemens) – CA
- IBM – CA
- Samsung Austin R & D Center – TX
- Silicon Integration Initiative, Inc. – TX
- Ansys, Inc. – PA
- Western Digital CHIPS Alliance – CA
- Facebook – CA
- Sweetwater Union High School District – CA
- A Reason To Survive (ARTS) – CA
- SACNAS – CA
- Girl Scouts San Diego – CA
- FIRST – NH

NSF AI Institute for Optimization

LEAD:
Georgia Tech

PRINCIPAL ORGANIZATIONS:

- University of California – CA
- University of Southern California – CA
- Clark Atlanta University – GA
- University of Texas – TX
- Spelman College – GA

PARTNERS/COLLABORATORS:

- Georgia Center of Innovation for Logistics – GA
- Amazon Robotics – MA
- Georgia Dept of Economic Development – GA
- UPS – GA
- Girls Academic Leadership Academy – CA
- Gurobi Optimization – OR
- Ryder – GA
- Oak Ridge National Laboratory – TN
- Midcontinent Independent Systems Operator (MISO) – IN
- Los Alamos National Laboratory – NM
- Lawrence Livermore National Laboratory – CA
- Atlanta Public Schools – GA

NSF AI Institute for Intelligent Cyberinfrastructure with Computational Learning in the Environment (ICICLE)

LEAD:
Ohio State University

PRINCIPAL ORGANIZATIONS:

- Case Western Reserve – OH
- Indiana University – IN
- University of California – CA
- University of Delaware – DE
- University of Wisconsin – WI
- University of California – CA
- IC-FOODS – CA
- University of Utah – UT
- Rensselaer Polytech Inst. – NY
- University of Texas – TX
- Iowa State University – IA

PARTNERS/COLLABORATORS:

- University of Stuttgart
- Max Planck Institute
- Microsoft AI for Earth – WA
- WildMe – OR
- Lawrence Livermore National Laboratory – CA
- Brookhaven National Laboratory – NY
- Fermi National Accelerator Laboratory – IL
- US Fish and Wildlife Service – Washington,DC
- TrustedCI Institute – IN
- AIFS – CA
- IAIFI – MA
- AI-FARMS – IL
- Molecular Sciences Software Institute – VA
- Science Gateways Community Institute – CA
- Information Sciences Institute – CA
- National Center for Women and Information Technology – CO
- Expanding Pathways in Computing Alliance – TX
- AccessComputing – WA
- Computing Alliance of Hispanic-Serving Institutions – TX

- Mid-Ohio Food Collective – OH
- CNH Industrial – IL
- Agricultural Data Coalition – OH
- Southern California Earthquake Center – CA
- Indiana University, Jetstream – IN
- National Ecological Observatory Network-Battelle – CO
- Nationwide Children’s Hospital – OH
- The Findings Group – GA
- I Love Farmers Markets – CA
- Princeton University – NJ
- University of North Carolina – NC

NSF AI Institute for Future Edge Networks and Distributed Intelligence (AI-EDGE)

LEAD:
Ohio State University

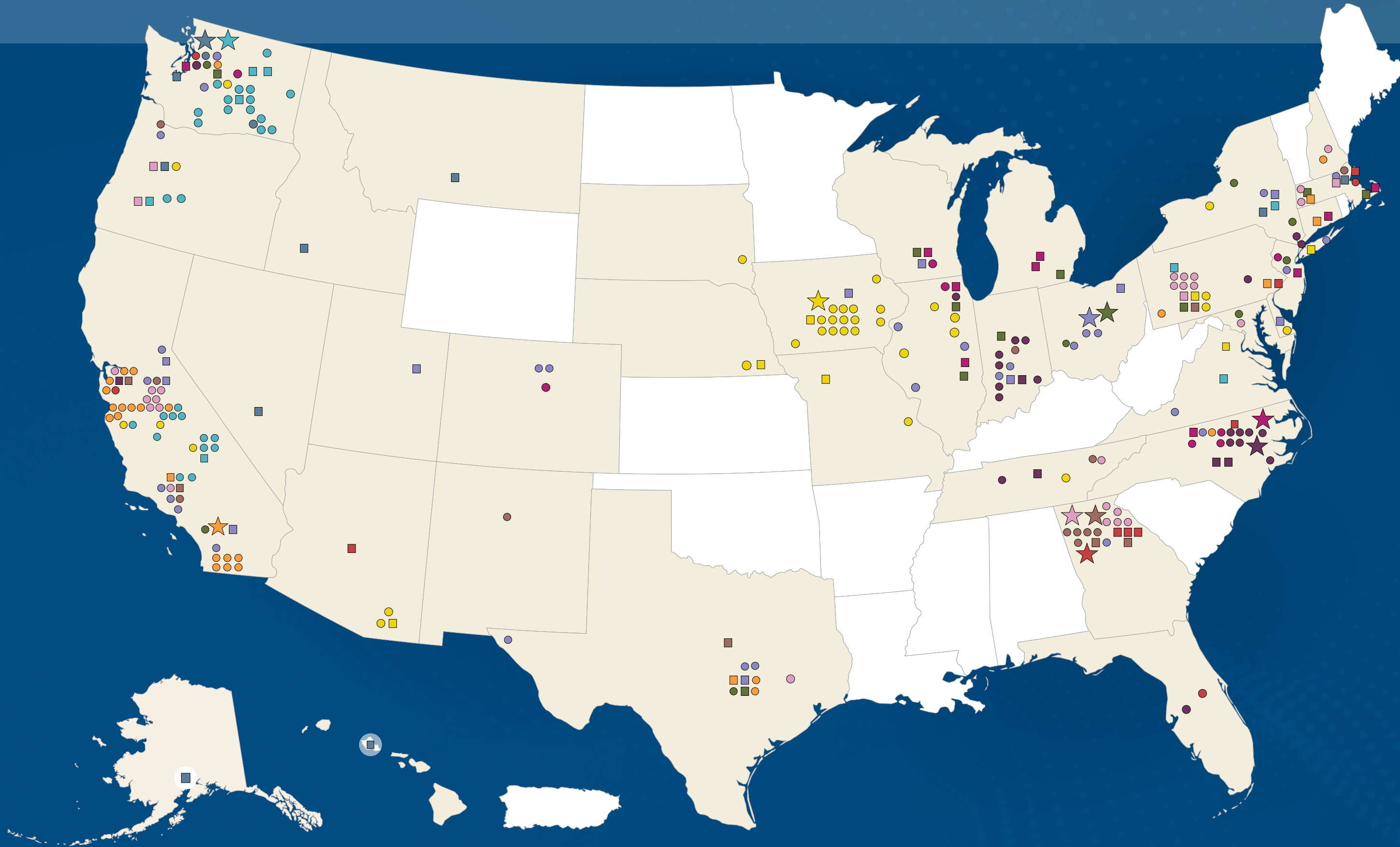
PRINCIPAL ORGANIZATIONS:

- Purdue University – IN

- Carnegie Mellon University – PA
- University of Massachusetts – MA
- University of Wisconsin – WI
- University of Texas – TX
- Northeastern University – MA
- University of Illinois Urbana-Champaign – IL
- University of Michigan – MI
- University of Washington – WA
- University of Illinois – IL

PARTNERS/COLLABORATORS:

- Microsoft – WA
- Qualcomm – NJ
- Qualcomm – CA
- AT&T Labs – TX
- IBM Thomas J. Watson Research Center – NY
- Army Research Laboratory – MD
- Air Force Research Laboratory – NY
- Air Force Research Laboratory – OH
- Naval Research Laboratory – Washington, DC



NSF AI Institute for Edge Computing
Leveraging Next-generation Networks
(Athena)

LEAD:
Duke University North Carolina

- PRINCIPAL ORGANIZATIONS:
- University of Wisconsin – WI
 - Yale University – CT
 - University of Michigan – MI
 - Princeton University – NJ
 - Massachusetts Institute of Technology – MA
 - North Carolina A&T – NC
 - University of Illinois Urbana-Champaign – IL
 - University of Michigan – MI
 - University of Washington – WA
 - University of Illinois – IL

- PARTNERS/COLLABORATORS:
- AT&T – NJ
 - Microsoft – WA
 - Motorola Solutions – IL
 - Edge Micro – CO
 - 5NINES – WI
 - Town of Cary – NC
 - North Carolina School of Science and Mathematics – NC
 - The STEAM Early College at NC AT&T – NC

NSF AI Institute for Dynamic Systems

LEAD:
University of Washington

- PRINCIPAL ORGANIZATIONS:
- Harvard University – MA
 - Columbia University – NY
 - Montana State University – MT
 - University of Nevada – NV
 - Seattle University – WA
 - Portland State University – OR
 - Boise State University – ID
 - University of Alaska – AK
 - University of Hawaii – HI

- PARTNERS/COLLABORATORS:
- Pacific Northwest National Laboratories – WA
 - Boeing Advanced Research Center – WA

NSF AI Institute for Engaged Learning

LEAD:
North Carolina State University

- PRINCIPAL ORGANIZATIONS:
- University of North Carolina – NC
 - Vanderbilt University – TN
 - Indiana University – IN
 - Digital Promise Global – CA
 - KFBS UNC-CH – NC
 - Digital Promise Global – Washington, DC

- PARTNERS/COLLABORATORS:
- AI For Teachers – NC
 - Code.org – WA
 - Computer Science Teachers Association – IL
 - Computing Research Association – Washington, DC
 - CSForALL – NY
 - EngageCSEdu – NY
 - STARS Computing Corps – PA
 - Nextech – FL
 - Boys & Girls Clubs of Bloomington – IN
 - Boys & Girls Clubs of the Coastal Plain – NC
 - North Carolina Museum of Natural Sciences – NC
 - WonderLab Museum of Science, Health and Technology – IN
 - Durham Public Schools – NC
 - Greater Clark County Schools – IN
 - Indiana School for the Deaf – IN
 - Loogootee Community School Corporation – IN
 - Metro Nashville Public Schools – TN
 - Metropolitan School District of Wayne Township – IN
 - Monroe County Community School Corporation – IN
 - North Carolina Department of Public Instruction – NC
 - Pitt. County Schools – NC
 - Wake County Public School System – NC

NSF AI Institute for Adult Learning and
Online Education (ALOE)

LEAD:
Georgia Research Alliance

- PRINCIPAL ORGANIZATIONS:
- Georgia State University – GA
 - Harvard University – MA
 - Georgia Tech Research Corp – GA
 - Technical College System of Georgia (TCSG) – GA
 - Drexel University – PA
 - UNC Greensboro – NC
 - Arizona State University – AZ

- PARTNERS/COLLABORATORS:
- IBM – CA
 - IMS Global – FL
 - Wiley – MA
 - Boeing – WA

USDA-NIFA AI Institute: Agricultural AI
for Transforming Workforce and Decision
Support (AgAID)

LEAD:
Washington State University

- PRINCIPAL ORGANIZATIONS:
- Oregon State University – OR
 - University of California – CA
 - University of Virginia – VA
 - Heritage University – WA
 - Innov8 Ag – WA
 - Wenatchee Valley College – WA
 - Carnegie Mellon University – PA
 - IBM Research – NY

- PARTNERS/COLLABORATORS:
- AgTech Insight – CA
 - Yakama Nation Tribal School – WA
 - Central Valley Community Foundation – CA
 - Okanogan Irrigation District – WA
 - Merced College – CA
 - Cascadia Innovation Corridor – British Columbia
 - Verdant Robotics – CA
 - Environmental Defense Fund – CA
 - Allan Bros – WA
 - University of Technology Sydney – International
 - Valancia PolyTech Univ – International
 - WA Tree Fruit Commission – WA
 - G S Long – WA
 - WA Department of Ecology – WA
 - Almond Board of California – CA
 - CA Department of Water Resources – CA
 - Linn-Benton Community College – OR
 - Microsoft – WA
 - Leibniz Institute of Ag. Eng. Bioecon. – International
 - Merced Irrigation District – CA
 - Washington Wine Grape Commission – WA
 - Wilbur-Ellis – CA
 - Turlock Irrigation District – CA
 - Walla Walla County Conservation District – WA
 - Grassland Water District – CA
 - Mercer Ranches – WA
 - University of British Columbia – British Columbia
 - Wonderful Orchards – CA
 - Columbia Basin College – WA
 - Washington Mint Commission – WA
 - Zirkle Fruit Co – WA
 - Chemeketa Community College – OR

USDA-NIFA AI Institute: AI Institute for
Resilient Agriculture (AIIRA)

LEAD:
Iowa State University

- PRINCIPAL ORGANIZATIONS:
- Carnegie Mellon University – PA
 - University of Arizona – AZ
 - New York University – NY
 - George Mason University – VA
 - Iowa Soybean Association – IA
 - University of Nebraska-Lincoln – NE
 - University of Missouri – MO

- PARTNERS/COLLABORATORS:
- Iowa Soybean Association – IA
 - Bayer – MO
 - USDA – ARS – Various states
 - Microsoft – WA
 - ETALYC Inc., – IA
 - Iowa Corn Growers Association – IA
 - EarthSense, Inc., – IL
 - North American Plant Phenotyping Network (NAPPN), – Virtual
 - Oak Ridge National Laboratory – TN
 - Iowa Economic Development Authority – IA
 - Mineral Google - X, The Moonshot Factory – CA
 - Grow Pittsburgh – PA
 - BioConnect Iowa – IA
 - MidWest Big Data Hub – Virtual

- The Data and Software Carpentries – CA
- Corteva Agriscience – DE, IA
- John Deere – IL, IA
- Omni Analytics Group – IA
- Practical Farmers of Iowa – IA
- Iowa Fruit & Vegetable Growers Association – IA
- Bloomfield Robotics – PA
- The University of Tokyo, Japan
- CyVerse – AZ
- CSIRO, Australia, Australia
- RocketML, Inc., – OR
- Vermeer Corporation – IA
- Raven Applied Technology – SD
- Cornell AgriTech and Ag Experiment Station – NY
- NSF/USDA-NIFA AI Institute (AIFS) – CA
- International Plant Phenotyping Network, Germany
- NSF/USDA-NIFA AIFARMS – IL
- Dryland Genetics – IA
- EnGenious Ag – IA
- Big Data in a Box – IA
- Federal Statistical Research Data Center (FSRDC) at Iowa State University – IA
- Agriculture Genome to Phenome Initiative – IA and other states
- Genomes to Fields Initiative – IA and other states
- NSF TRIPODS Institute at University of Arizona – AZ
- UNL CRAWL NRT – NE

